

Patent Claims:

1 – 15 (canceled)

16. (new) A method for the nondestructive testing of a gas turbine component, comprising:

determining a degraded region of the component by an eddy current measurement,

wherein at least two different measurement frequencies are used for the eddy current measurement and the regions of the component do not contain any ferromagnetic materials.

17. (new) The method as claimed in claim 16, wherein a low frequency is used initially and followed by a high frequency.

18. (new) The method as claimed in claim 16, wherein the frequency is changed continuously from the low frequency to the high frequency in a frequency scan.

19. (new) The method as claimed in claim 16, wherein oxide regions composed of oxidized carbides that are near a surface of the component represent the degraded regions.

20. (new) The method as claimed in claim 16, wherein the component is made from a carbide-containing alloy.

21. (new) The method as claimed in claim 16, wherein sulfided regions of the component located close to the surface represent the degraded regions.

22. (new) The method as claimed in claim 16, wherein a measurement probe with coils in meandering form is used.

23. (new) The method as claimed in claim 16, wherein a relative magnetic permeability of the component is less than or equal to 1.2.

24. (new) The method as claimed in claim 16, characterized in that the frequency for the eddy current measurement is in the range from 500 kHz to 35 MHz.

25. (new) The method as claimed in claim 16, wherein the measurement probe for the eddy current measurement is located on a surface of the component.

26. (new) The method as claimed in claim 1, wherein a base body of the component is made from a nickel- or cobalt-base superalloy.

27. (new) The method as claimed in claim 16, wherein the degraded regions have a low electrical conductivity.

28. (new) The method as claimed in claim 16, wherein a measurement variable of a base material is measured and a measurement variable of the degraded region is measured.

29. (new) The method as claimed in claim 28, wherein the measurement variable changes during the eddy current measurement as a function of the frequency.

30. (new) The method as claimed in claim 28, wherein the measurement variable is a magnetic permeability or the electrical conductivity.

31. (new) The method as claimed in claim 16, wherein the component is a blade or vane.